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Communities and Water Markets: A Review of the Model Water Transfer Act

Santos Gomez

Penn Loh

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A Review of the Model Water Transfer Act

By *Santos Gomez and Penn Loh*[*]

I. Introduction

Water issues have emerged as some of the most intractable of contemporary policy issues, as regions around the world try to balance rapid increases in demand with fixed, and sometimes declining, quantities of fresh water. California, with the eighth largest economy in the world, a semi-arid climate, and a growing population, is facing these issues. Demand for fresh water continues to increase as supply remains relatively fixed due to the rising economic and environmental costs of new infrastructure.[1] Conflicts over water continue to intensify. This dilemma has forced water planners to consider the reallocation of existing supplies among competing and sometimes conflicting uses.

Surprisingly, there seems to be growing agreement among economists, environmentalists, urban water agencies and others that water markets can and should help solve this problem. Economists have shown that market transfers, in theory, could make water allocation more economically efficient.[2] Water would be voluntarily traded from lower to higher economic value uses—primarily from agriculture to the urban sector. Environmentalists endorse the idea because it has the potential to alleviate the need for new, expensive, and environmentally damaging water supply projects. Further, many believe that water transfers will provide an opportunity for environmental interests to purchase

[*] Santos Gomez is a Senior Research Associate at the Pacific Institute for Studies in Development, Environment, and Security in Oakland, California, and the Director of the Community Strategies for Sustainability and Justice. Penn Loh is the Development and Research Director at Alternatives for Community and Environment in Boston, Massachusetts. The research for this project was supported by the Community Alliance with Family Farmers Foundation, the San Francisco Foundation, the Gap Foundation, and the University of California Sustainable Agriculture Research and Education Program. We would like to thank Anna Steding and Arlene Wong for their thoughtful review and comments.

1. While demands for water continue to increase, the traditional response of developing new supplies is no longer a feasible option. Several factors have contributed to this new reality. First, high project costs and declining public resources have led to fewer projects being built. Second, environmental legislation such as the National Wild and Scenic Rivers Act and the Endangered Species Act have limited the number of cost-effective sites. Third, there has been voter resistance to pay for expensive new water projects as exemplified by the decisive rejection of the Peripheral Canal bond measure in 1982. Fourth, recent public trust court decisions make it increasingly difficult to construct new water projects. *See, e.g.*, Brian E. Gray, *The Shape of Transfers to Come: A Model Water Transfer Act for California*, 4 WEST-NORTHWEST 23 (1996); PENN LOH & SANTOS V. GOMEZ, WATER TRANSFERS IN CALIFORNIA: A FRAMEWORK FOR SUSTAINABILITY AND JUSTICE (1996).

2. *See generally* BONNIE COLBY SALIBA & DAVID B. BUSH, WATER MARKETS IN THEORY AND PRACTICE: MARKET TRANSFERS, WATER VALUES, AND PUBLIC POLICY (1987); T. L. ANDERSON, WATER RIGHTS: SCARCE RESOURCE ALLOCATION, BUREAUCRACY, AND THE ENVIRONMENT (1983); BAY AREA ECONOMIC FORUM (hereinafter BAEF), USING WATER BETTER: A MARKET-BASED APPROACH TO CALIFORNIA'S WATER CRISIS (1991); RICHARD W. WAHL, WATER MARKETING IN CALIFORNIA: PAST EXPERIENCE, FUTURE PROSPECTS (1993) (Reason Foundation, Policy Study No. 162, 1993); Charles W. Howe, Dennis R. Schurmeier, and W. Douglas Shaw Jr., *Innovative Approaches to Water Allocation: The Potential for Water Markets*, 22 WATER RESOURCES RES. 439 (1986); H. J. Vaux Jr. and Richard E. Howitt, *Managing Water Scarcity: An Evaluation of Interregional Transfers*, 20 WATER RESOURCES RES. 785 (1994).

water for environmental uses.[3] Urban water interests hope that water markets will provide new supplies of water more cheaply than will building new infrastructure.[4] Some farmers view water transfers as an opportunity to improve farm profitability.[5]

Markets, however, "are not an end in and of themselves but a means to the end of a water allocation process that serves both private and public interests."[6] Despite more than 15 years of policy discussions and initiatives aimed at creating a long-term, state-wide market for water transfers, there has been a lack of democratic discussion over public values in water and an excessive focus on economic efficiency of allocation. The proposed Model Water Transfer Act for California (Model Act)—the latest in a series of recent proposals to reform the state laws governing market-based water reallocation and water rights in California—does little to remedy these deficiencies. Water in California is too important to economic prosperity, environmental quality, and social well-being to be left entirely to market reallocation. Water marketing reforms, as currently proposed, are unlikely to support sustainability and equity as long as large segments of the population, especially the poor and people of color, are excluded from the debate.

This paper reviews the proposed Model Act with respect to community impacts and suggests alternative solutions. It begins by reviewing the evolution of water policy in California (Section II). Specifically, it explains why the narrow market model usually proposed—and on which the Model Act is premised—is not the proper institutional foundation for water reallocation. Water is a free-flowing and shared resource that is not easily turned into a private commodity. Furthermore, the market conflicts with other public goals such as protecting rural communities, ensuring equity and fairness, and promoting sustainability.

Then, in Section III, this paper reviews and critiques the Model Act, with a special focus on the community and third-party impact provisions. While the Model Act would lower some of the legal hurdles to water transfers, and thereby create greater incentives for them, it fails to adequately protect legitimate community and third-party interests.

This paper concludes that without making water allocation fairer and more sustainable, water markets are unlikely to be consistent with public ends and may not develop at all. Indeed, markets for water have yet to emerge in California despite the fact that the state has passed more legislation to encourage water marketing in the last decade than any other state.[7] On the other hand, if water transfer policies are built on a foundation of a clearly defined public interest and a fair democratic decision making process, then voluntary trades of water could contribute to a more sustainable and equitable water future for the state.

II. The Market Reform Strategy: A Historical Context

> The desire to use the market institution to allocate water resources throughout the West is quite appealing at first glance. Indeed, it has been the failure to let markets price water which has led to an exaggerated notion of the seriousness of the 'scarcity problem in the first place However, it is also important to look beyond the theoretically desirable properties of a market allocation to see if, in fact, an efficient solution will obtain.[8]

> [T]he common inclination [is to] think of [water] transfers in a mode of a contract, with two parties only—a buyer and a seller. I believe that a more appropriate model would be a diplomatic negotiation with a number of parties, each with important and legitimate interests that need to be accommodated, but without clearly defined rights. The future of water transfers will be jeopardized unless something like that broader and more inclusive model is embraced.[9]

3. NATURAL HERITAGE INSTITUTE [hereinafter NHI], NHI PROPOSAL ON INSTITUTIONAL REFORMS TO FACILITATE WATER TRANSFERS (1995); ROBERT STAVINS AND ZACH WILLEY, TRADING CONSERVATION INVESTMENTS FOR WATER (1993); ZACH WILLEY, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL QUALITY IN CALIFORNIA'S WATER SYSTEM (1985); Zach Willey, *Behind Schedule and Over Budget: The Case of Markets, Water, and Environment* [hereinafter *Behind Schedule and Over Budget*], 15 HARV. J. L. & PUB. POL'Y 391 (1992).

4. *See, e.g.*, METRO. WATER DIST. OF S. CAL. [hereinafter MWD], INTEGRATED RESOURCE PLAN (Phase I Report, Final Draft, 1994).

5. *See generally*, Harold O. Carter and Henry J. Vaux Jr., *Third-Party Effects: The Research Challenge*, in SHARING SCARCITY: GAINERS AND LOSERS IN WATER MARKETING 44 (Harold O. Carter, et al. eds., 1994). *See also* IMPERIAL IRRIGATION DIST., WATER REQUIREMENTS AND AVAILABILITY STUDY (1996), and PENN LOH AND ANNA STEDING, THE PALO VERDE TEST LAND FALLOWING PROGRAM: A MODEL FOR FUTURE CALIFORNIA WATER TRANSFERS? (1996).

6. *See, e.g.*, NAT'L RES. COUNCIL COMM. ON W WATER MGMT [hereinafter NRC], WATER TRANSFERS IN THE WEST EFFICIENCY, EQUITY, ENVIRONMENT (1992).

7. *See, e.g.*, Richard W. Wahl, *Market Transfers of Water in California*, 1 WEST-NORTHWEST 49 (1994).

8. Victor Brajer & Wade E. Martin, *Allocating a 'Scarce' Resource, Water in the West: More Market-Like Incentives Can Extend Supply, But Constraints Demand Equitable Policies*, 48 AM. J. ECON. & SOC'Y 268 (1989).

9. Joseph L. Sax, *Understanding Transfers: Community Rights and the Privatization of Water*, 1 WEST-NORTHWEST 13 (1994).

Water transfers are not new, and have, in fact, been part of California's water history since 1859 when the California Supreme Court held that water could be "transferred like other property."[10] Three years later, however, the court recognized the rights of other water users when it ruled that the transfer of water or water rights "must not be to the prejudice of the rights of others."[11] This principle of "third party protection" remains intact today[12] and is viewed by many as the principal limitation on transfers of water in California.

More recently, Hirschleifer, DeHaven, and Milliman were among the first to promote the view that water was not special and should be treated like any other commodity in its allocation.[13] Economists suggested that a market could allow water to flow from lower value to higher value uses.[14] By the late 1970's and early 1980's, proponents of water marketing in California included the RAND Corporation and the Governor's Commission to Review California Water Rights Law. These proponents suggested that appropriate economic incentives and reforms in existing water rights laws were necessary to use water more efficiently and to encourage voluntary transfers.[15]

During the 1980's, economists, urban water agencies, environmentalists, and business interests began to focus on water marketing as the best way to reallocate the state's water to urban growth and environmental goals.[16] Growing urban areas and businesses believed that water markets would provide new water supplies more cheaply than building new infrastructure. Some environmentalists supported water markets as a way to prevent the construction of more dams and to encourage more efficient practices and the purchase of water for environmental purposes. Market advocates hoped that subjecting allocation decisions to the economic calculus of the market would avoid the economic inefficiencies generated by the political system of allocation dominated by a few powerful interests.

In the hopes of encouraging water marketing, reforms over the past 15 years in California have established clearer property rights and removed some restrictions on voluntary sales of water.[17] Yet there have been few long-term inter-regional transfers and almost no market-like transfers in the state.[18] This section describes why the pure market model is not the appropriate template for water reallocation policy. First, economic theory makes various assumptions about well-functioning markets that are not, and may never be, satisfied in the real world. Simply because a resource could theoretically be allocated more efficiently does not mean that a market will or should evolve.[19] Second, the primary objective of markets—economic efficiency—can, and in the context of California water does, conflict with other important social values such as fairness in decision making, equitable access, and sustainability. Economic incentives can make the attainment of social goals easier and more efficient, but first these goals must be better defined.

10. *See* McDonald v. Bear River & Auburn Water & Mining Co., 13 Cal. 220 (1859).

11. *See* Butte T.M. v. Morgan, 19 Cal. 609 (1862). It is important to recognize that the "rights of others" as used in this case refers to other water rights holders and not the community or non-water rights holders third-parties.

12. *See* CAL. WATER CODE §§ 1702, 1706 (West 1996).

13. *See* JACK HIRSHLEIFER, ET AL., WATER SUPPLY: ECONOMICS, TECHNOLOGY, AND POLICY (1960).

14. *See generally* Clifford Lee, *The Transfer of Water Rights in California: Background and Issues* (Governor's Comm. to Review Water Rights Law, Staff Paper No. 5, 1977); CHARLES J. MEYERS & RICHARD A. POSNER, MARKET TRANSFER OF WATER RIGHTS. TOWARD AN IMPROVED MARKET IN WATER RESOURCES (1971).

15. *See generally* GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW: FINAL REPORT (1978); CHARLES E. PHELPS, ET AL., EFFICIENT WATER USE IN CALIFORNIA: WATER RIGHTS, WATER DISTRICTS AND WATER TRANSFERS (1978).

16. *See generally* WILLEY, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL QUALITY IN CALIFORNIA'S WATER SYSTEM, *supra* note 3. *See also* MOHAMED EL-ASHRY AND DIANA C. GIBBONS, TROUBLED WATERS: NEW POLICIES FOR MANAGING WATER IN THE AMERICAN WEST (1986); MARC REISNER & SARAH BATES, OVERTAPPED OASIS: REFORM OR REVOLUTION FOR WESTERN WATER (1990).

17. *See, e.g.*, BRENT M. HADDAD, THE ECONOMIC UNDERPINNINGS OF EFFORTS TO CREATE WATER MARKETS IN CALIFORNIA: WHY THE WELL IS STILL DRY (forthcoming 1996); Gary D. Weatherford, *State and Federal Water Transfer Legislation*, Address Before the BAEF Environmental and Water Law Section (July 26, 1993). In the early 1980's, the California Legislature enacted policies that made water transfers not simply an incidental feature of water policy, but vital to long-term water planning. The Legislature declared "that ... efficient use of water requires certainty in the definition of property rights to the use of water and transferability of such rights." CAL. WATER CODE § 109(a) (West 1996). The Legislature went on to say that it is "the established policy of this state to facilitate the voluntary transfer of water and water rights where consistent with the public interest in the place of export and the place of import." *Id.*

Other efforts designed to facilitate voluntary transfers included the right to transfer reclaimed water and emergency transfers, *id.* §§ 1010, 1435; the right to used the unused conveyance capacity of public agencies, *id.* §§ 1810–14; and the creation of a drought water bank, *id.* §§ 480–82. More recent efforts to facilitate water transfers include the Central Valley Project Improvement Act of 1992, Pub. L. No. 102-575, §§ 3401–3412, 106 Stat. 4600 (1992), and the Monterey Agreement. *See, e.g.*, IMPLEMENTATION OF THE MONTEREY AGREEMENT (MAY 1995) (Statement of Principles by the State Water Contractors and the State of California, Department of Water Resources for Potential Amendments to the State Water Supply Contracts).

18. *See* LOH & GOMEZ, *supra* note 1, at 6–8.

19. *See generally* Peter S. Menell, *Institutional Fantasylands: From Scientific Management to Free Market Environmentalism*, 15 HARV. J.L. & PUB. POL'Y 489 (1992).

A. Water as a Commodity: The Theoretical Economic Underpinning

Water marketing reforms have been supported by neoclassical economic theory. The "new resource economists" promoted the view that natural resources were best regulated by privatizing rights and creating markets for their allocation.[20] Other economists were less outspoken, yet optimistic about the possibilities of market reforms. Vaux and Howitt, using an inter-regional trade model of water transfers in California, determined that market transfers would offset the need for new supplies such that only 100,000 acre-feet of new capacity would be required by 2020.[21] Such findings of potential benefits of market allocation have bolstered reforms aimed at instituting a private property regime for water.

In an ideal water market, self-interested individuals hold secure titles that can be freely sold and transferred. When buyer and seller are given full information of the costs, benefits, and alternatives, trades occur only if the exchange benefits both. Thus, water allocation is determined by decentralized decisions by individuals rather than by a central regulator. Distribution of water is economically efficient because it flows to its highest economically valued uses, thus maximizing the sum of all economic benefits received. True market allocation is distinguished from government use of economic incentives in that prices are set by the market and not by the government, as they are in a regulated water bank.[22]

According to economic theory, an efficient, well-functioning market and its potential benefits can only be achieved under certain conditions.[23] These include that:

1. Property rights must be clearly and completely specified, exclusive, and transferable.
2. The infrastructure must exist for water to be transported from seller to buyer.
3. Buyers and sellers must be fully informed about other buyers and sellers, the water right, and the benefits and costs of the trade and its alternatives.
4. The transfer must not impose costs on third parties (external costs).
5. Transaction costs must be minimal.
6. Buyers and sellers must be numerous enough so that no one buyer or seller can influence price.

B. Feasibility of Market Conditions in California

The above conditions rarely hold in California. Active water markets in the Western U.S. only exist under unique institutional and geographic conditions that are not likely to be replicated broadly.[24] In most regions, there are many practical complications in establishing a water market. In California, only some of the water rights are both quantified and secure enough to transfer. Although appropriative rights claimed before 1914 should be quantified, they are only established through adjudication and therefore are easily shuffled around. Further, most groundwater rights remain unquantified.[25]

According to Tarlock, California's "water rights do not function to allocate water, but as licenses to take until the taking is contested."[26] Clarifying a water right and determining the potential impacts of a transfer require expensive hydrologic studies of return flows and interactions with groundwater.[27] Parties other than the buyer and seller, including other water rights holders, water recreationists, local communities and their economies, as well as the environment, could be significantly affected if a transfer changes the quantity or quality of water available at a certain place and time. Uncertain water rights, costly and uncertain information, and impacts on parties other than buyer and seller all raise the costs of transactions. These costs include looking for parties with whom to trade, verifying the legal rights and physical characteristics of the water to be traded, negotiating price and other terms, and obtaining legal approval for the transaction.[28]

Under these conditions, a long-term, inter-regional water market is likely to be small, as has been the case so far in California. Participation is limited primarily to those buyers and sellers connected to existing conveyance systems who have the resources to

20. *See, e.g.*, ANDERSON, *supra* note 2.

21. *See* Vaux and Howitt, *supra* note 2, at 789.

22. *See* Willey, *Behind Schedule and Over Budget*, *supra* note 3, at 403.

23. *See generally* HADDAD, *supra* note 17; Brajer & Martin, *supra* note 8; Zachary McCormick, *Institutional Barriers to Water Marketing in the West*, 30 WATER RESOURCES BULL. 953 (1994); Robert A. Young, *Why Are There So Few Transactions Among Water Users*, 68 AMER. J. AG. ECON. 1143 (1986).

24. *See, e.g.*, Ari M. Michelsen, *Administrative, Institutional, and Structural Characteristics of an Active Water Market*, 30 WATER RES. BULL. 971 (1994).

25. Telephone Interview with E. Anton, Chief, Division of Water Rights, California State Water Resources Control Board, (July 24, 1996).

26. A. Dan Tarlock, *From Natural Scarcity to Artificial Abundance: The Legacy of California Water Law and Politics*, 1 WEST-NORTHWEST 71 (1994).

27. The Model Act does not address groundwater transfers *per se*, it only addresses groundwater in conjunctive use with surface water transfers. As for pre-1914 surface water transfers, the Model Act does not require SWRCB review or approval.

28. *See* Bonnie G. Colby, *Transactions Costs and Efficiency in Western Water Allocation*, 72 AMER. J. AG. ECON. 1184 (1990).

pay high transactions costs. Until recently, buyers have been dominated by one urban agency, the Metropolitan Water District of Southern California. More recently, other urban water agencies, including San Diego County Water Authority and the East Bay Municipal Utility District, have entered the market. Potential sellers have been limited to those districts with reliable and secure rights: the three major irrigation districts using Colorado River supplies, the four original San Joaquin River exchange contractors, and Sacramento River water rights holders. So far, only one individual seller has publicly entered negotiations.[29] Without numerous buyers and sellers, a water market would not be well-functioning nor efficient, and thus potential benefits would not be realized. Many potential buyers and sellers are not individuals but water districts that hold water rights. These organizations sometimes block trades, but often do so in order to protect their own viability and the interests of their members and to ensure local control.[30]

Some of these barriers to markets could be overcome, albeit at some cost. Water rights could be more clearly defined and quantified. A simpler administrative process could be implemented for transfers. Formulas could be used to quantify and to compensate for community and third-party impacts. While the Model Act makes incremental progress in many of these areas, many of the market conditions listed above are unlikely to be satisfied because they stem from water's physical characteristics and its importance to community and individual well-being. Sax suggests that in each transfer there are numerous parties, "each with important and legitimate interests that need to be accommodated, but without clearly defined rights."[31]

C. Desirability of Market Objectives: Is There More Than Economic Efficiency?

A more important consideration than feasibility of markets is desirablility. Even if markets are more efficient than other allocation institutions, the social values promoted by a market may conflict with other legitimate public goals. The market's main purpose is to promote economically efficient allocation; this is consistent with the values of individualism, self-sufficiency, and decentralized economic organization. Economic efficiency, however, is only a means to other social ends. Community values, equity and fairness, and sustainability are not just barriers to markets, they are also among the ends that allocation institutions should help achieve.

Private water rights do not account for all the benefits of water that accrue to the broader community. "Unlike almost every other form of property, which we allow to be entirely privatized, water has always been viewed as something in which the community has a stake and which no one can fully own."[32] Water districts in arid regions serve not simply to provide water but also to resolve conflicts and realize local participation and control.[33] At the local level, existing water uses support the economy, tax base, environment, and recreational values of the communities.[34] Local communities, such as Hispanic and Native American communities in the southwest and other rural communities, derive an important sense of cultural identity, of place, and of security from traditional water allocation systems.[35] Even from the state perspective, certain rural cultures and environmental values are heritage resources that should be protected. In *In re Application of Howard Sleeper*,[36] Judge Encinas reversed the approval by the New Mexico State Engineer of a water right transfer from an agricultural use to a ski resort. He ruled that the "unique cultural heritage" of Northern New Mexico should be preserved over the net economic benefits offered by the ski development.[37] According to the court, these types of collective benefits are difficult to measure in market prices and therefore difficult to compensate for in transfers. Supporting the values of conflict resolution, community cohesiveness, and cultural heritage requires some measure of public control over allocation.[38]

Purely economic markets are also objectionable if the goals are equity in distribution and fairness in the decision making process. Creating a system of private rights redistributes wealth. At the same time that rights holders gain more secure titles to water, other individuals and the communities that have benefited from the use of water in a particular place and manner become "third par-

29. *See, e.g.*, J. A. Savage, *The Selling of Water*, 25 CAL. J. 39 (1994).

30. *See* Barton H. Thompson Jr., *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671 (1993).

31. *See* Sax, *supra* note 9, at 13.

32. *Id.*

33. *See generally*, ARTHUR MAASS & RAYMOND L. ANDERSON, ... AND THE DESERT SHALL REJOICE: CONFLICT, GROWTH, AND JUSTICE IN ARID ENVIRONMENTS (1978).

34. CAL. ACTION NETWORK [hereinafter CAN], CALIFORNIA WATER MARKETING POLICY: TOWARD ACHIEVING A NET BENEFIT FOR ALL (1992); CAN & CAL. ASS'N OF FAMILY FARMERS, SALES OF WATER IN CALIFORNIA: SOME THOUGHTS FROM AGRICULTURAL COMMUNITIES (1992).

35. *See, e.g.*, F. LEE BROWN & HELEN M. INGRAM, WATER AND POVERTY IN THE SOUTHWEST (1987).

36. Case No. RA-84-53(C), Rio Arriba County, New Mexico, First Judicial District (April 16, 1985).

37. *Id.*

38. *Id.*

ties" and potentially lose their historical benefits if water is transferred without adequate protections. Of particular concern is the fact that transfers of water would disproportionately harm the poor since they have the fewest resources to adjust to economic changes caused by the loss of water.[39] The poor and people of color are also the least likely to hold water rights and thus the least likely to benefit directly from water sales. Economic theory holds that a wide range of distributional outcomes are possible in a market, depending on the initial allocation of rights. It is unlikely that a market based on the present disparities in water rights and on the ability to adjust to economic changes will achieve an equitable outcome. Achieving a more equitable distribution of water is not an economic task, nor an afterthought to establishing a market; it is a political task that needs to be discussed before proceeding with new legislation or policy to create a water market.

In an unregulated market system, water is allocated according to individual decisions to buy, sell, and use water. The public interest is defined as the sum total of private benefits. Water planning then becomes irrelevant and private "wants," not public "needs," dominate.[40] Market reallocation, therefore, is not fair because water flows to those with the most resources. The rich have more of a "vote" in the marketplace and will determine how water will be used. By moving water to the highest-valued uses as measured in economic terms, the market will distribute water according to effective wants, not needs. Such a system will not support widely accepted social goals such as providing affordable access to adequate supplies of water for meeting basic human and environmental needs, or as keeping public institutions responsive and accountable to the public. As California's water needs change, driven by economic and demographic changes, democratic processes and fairness in decision making will increase in importance. Because water is so infused with public values, only democratic institutions that allow public debate over the common good can ensure fairness in allocation decisions.

Finally, markets do not promote the long-term sustainability of the water resource. Markets do not ensure that ecological integrity is maintained for future generations. Short-term gains often outweigh preferences for future uses. Prices do not reflect the full value of the services provided by ecosystems or the intrinsic value of pristine and undeveloped water courses. Even if water could be purchased for the environment, this water could not reach many of the wetlands and wildlife refuges that are not connected to the state's water system unless new infrastructure is built.

Water is also implicated in the sustainability of the state as a whole. Ironically, market transfers of water from agricultural to municipal and industrial uses, while preventing new dams, could allow for more unsustainable growth in the state. Urban growth patterns have been led by land-owning and developer interests, who have pursued new water supplies not to meet existing needs but to facilitate unplanned growth and increase their own wealth.[41] This growth-oriented water ethic has resulted in more than 110 approved or pending developments without identified long-term reliable water supplies.[42] Many urban water managers still ascribe to this ethic and feel that it is their job to meet demands, not to control it.[43]

In a market, large urban water agencies have the upper hand in negotiations in terms of information, staff, and willingness to pay for water. Thus, water marketing may result in more suburban sprawl at the expense of open space, farmland, and rural communities. According to a recent study by the American Farmland Trust, more than one million acres of farmland (60 percent of which is prime farmland) will be lost to urbanization in the Central Valley by the year 2040.[44] Thompson notes that because many urban agencies do not use marginal cost pricing, the water transfer option can be a way for these agencies to avoid implementing politically sensitive conservation and pricing practices that could reduce demand at less overall cost.[45] Recent evidence from urban water agencies—including the Goleta Water District and the East Bay Municipal Utility District—support this notion.[46]

39. *See generally* BROWN & INGRAM, *supra* note 35; CAN, *supra* note 34; Sax, *supra* note 9.

40. *See* Victor Brajer, et al., *The Strengths and Weaknesses of Water Markets as They Affect Water Scarcity and Sovereignty Interests in the West*, 29 NAT. RES. J. 489 (1989).

41. *See* ROBERT GOTTLIEB & MARGARET FITZSIMMONS, THIRST FOR GROWTH: WATER AGENCIES AS HIDDEN GOVERNMENT IN CALIFORNIA (1991); Richard A. Walker & Matthew J. Williams, *Water from Power: Water Supply and Regional Growth in the Santa Clara Valley*, 58 ECON. GEOGRAPHY 95 (1982).

42. *See* E. BAY MUN. UTILITY DIST., LACK OF LONG-TERM RELIABLE WATER SUPPLIES (1995).

43. *See* DAVID L. FELDMAN, WATER RESOURCES MANAGEMENT: IN SEARCH OF AN ENVIRONMENTAL ETHIC 2 (1991).

44. AM. FARMLAND TRUST, ALTERNATIVES FOR FUTURE URBAN GROWTH IN CALIFORNIA'S CENTRAL VALLEY: THE BOTTOM LINE FOR AGRICULTURE AND TAXPAYERS (1995).

45. Thompson, *supra* note 30.

46. Telephone Interview with Bob Wilkinson, Lecturer, Environmental Studies Department, University of California at Santa Barbara (June 6, 1996).

III. The Model Act: Inadequate Protections for Community and Third-Party Impacts

As noted above, years of policy reform efforts and attempts to create a market for inter-regional long-term water rights in California have yielded few long-term, inter-regional, market-like transfers. Today, fresh attempts are being made to create a water market. The Model Water Transfer Act for California is the latest proposal to reform the state laws governing the market transfer of water and water rights in California.[47] Sponsored by the California Business Roundtable, the California Chamber of Commerce, the California Farm Bureau Federation, the California Manufacturers Association, and authored by Hastings College of the Law Professor Brian E. Gray, the Model Act reflects the view that voluntary water transfers can help reallocate the available water supply to the benefit of all Californians.[48]

While the Model Act addresses some of the issues raised in Part II, *supra*, and makes incremental progress toward establishing a market in a number of very important areas—including efforts to create a set of coherent transfer rules, to protect the rights of current water rights holders, and to reduce the regulatory burden of water transfer review procedures—it flounders in its attempts to provide adequate protections for communities and third parties.

Language in the purpose and policies sections of the Model Act proposes a "comprehensive set of laws to govern voluntary transfers of surface water and to *protect the legitimate interests of others* who may be affected by such transfers."[49] In the Declaration of Policies, for example, the Model Act states that "[t]o the extent that water transfers cause injury to ... the regional economies of areas from which water is transferred, these third-party interests must be appropriately protected or compensated."[50] While language in these sections acknowledges that community impacts are legitimate interests that must be adequately protected or compensated and seems to imply that they are adequately protected or mitigated, there is little evidence to support this implication in the body of the Model Act. Further, nowhere does the Model Act address the fundamental ethical question concerning whether water developed by the public, through taxpayer investment and for public benefit, should be marketed for private gain.

This section focuses on the need for more comprehensive community and third party protections, and limits the discussion of other Model Act issues accordingly. As the National Research Council concluded in *Water Transfers in the West: Efficiency, Equity, and the Environment*:

> [R]ecognition and protection of third party interests are essential if water transfers are to achieve their potential to reallocate water to meet new demands. ... [T]he West has never treated water as just another commodity and should not do so now. There must be a balance between efficiency and fairness.[51]

The Model Act, as currently written, fails to strike such a balance. Community and third-party protections vary depending upon the class of water being transferred or upon the duration of the transfer, and all protections or mitigations are grossly inadequate. Short-term water transfers require no community or third-party impact protection or compensation. Protection or compensation for long-term water transfers, which may be permanent in nature, are also inadequate.[52] Only long-term transfers involving water from land fallowing or in retirement qualify for community and third-party protection or mitigation consideration.[53] Expedited transfers of conserved water, as defined by Section 505, limit review and comment, as well as limiting potential remedies for community and third-party impacts to the "security deposit" of $5 per acre-foot of water transferred.[54]

47. Beginning in 1979, the California Legislature enacted a series of statutes designed to promote the voluntary transfer of water on a broader regional and statewide basis. Such efforts, along with the creation of the 1991 and 1992 Drought Water Bank, reflect the view that voluntary water transfers can help re-allocate available supplies to the benefit of all Californians. *See supra* note 17 for additional details.

48. The Model Act also reflects the recognition that water transfers have yet to achieve their market potential to improve the effectiveness of California's water system. It ignores the importance of water for social, environmental, and cultural values. It also fails to acknowledge that water transfers, of all classifications and durations, produce winners and losers. And, as Ingram has noted, those individuals whose interests are quashed by markets are "bound to pursue political avenues to achieve benefits and avoid costs." Helen M. Ingram, *Politics, Markets, Society, and Water Resources*, 14 HALCYON: J. HUMAN. 57 (1992). Therefore, understanding California's needs and changing water politics is the only way to move market discussions forward.

49. *See* A MODEL WATER TRANSFER ACT FOR CALIFORNIA [hereinafter MODEL ACT] § 102 (emphasis added), *reprinted in* 4 WEST-NORTHWEST 3 (1996).

50. *See id.* § 101.

51. NAT'L RES. COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT 8 (1992). This report highlighted the seriousness of community and third-party impacts that might result from transfers of irrigation water from local areas. The report stated that "[n]o issue gave the committee more trouble than that question of how to characterize and evaluate the effects of water transfers on small communities." *Id.* at 45.

52. *See infra* Part III.B.

53. *See* MODEL ACT; *infra* Part III.B.

54. *See* MODEL ACT. The "security deposit" must be adjusted annually by the SWRCB based on changes in the Consumer Price Index published by the US Department of Commerce. The liability of both buyers and sellers is limited to this "security deposit," and the burden of proof is on the injured party who must establish by a preponderance of the evidence that the claimant's injuries where caused by the water transfer and not other factors. *See id.* § 506 (d).

A. Short-Term Water Transfers Require No Community or Third-Party Protections

Under current water law, short-term water transfers are transfers of water which are one year or less in duration. The Model Act, however, would expand the term of short-term transfers to two years or less for transfers between the same seller and buyer. The Model Act allows successive two-year transfers to different buyers.[55] Thus, a seller could conceivably enter into two-year, consecutive agreements with different buyers and evade ever having to safeguard against, or compensate the community or other third parties for, reasonable impacts.

Thus, in an effort to create the right economic and regulatory incentives to facilitate market-based water reallocation and improve economic efficiency, the Model Act has created a serious loophole for willing sellers to sell their water irrespective of the adverse community or third party impacts. According to section 404(a), the State Water Resources Control Board (SWRCB) must approve the transfer unless it concludes that it "would result in significant injury to any legal user of water" *or* "would unreasonably affect fish, wildlife, or other instream beneficial uses."[56]

As section 404(a) is currently written, only other water rights holders and the environment have standing to challenge short-term transfers. The burden of proof rests on the parties that have filed protests in accordance with section 403.[57] Short-term transfers that meet section 404(a) requirements, including consecutive transfer as long as it is not to the same buyer, must be approved regardless of the adverse economic or social impact on community or other third-parties. Such short-term transfers could be based on land fallowing or in retirement, or be consecutive, yet not require any protection or compensation of community or third-party impacts. No challenge, regardless of the seriousness of the economic impact, could be filed by the community or others adversely affected.

B. Long-Term Water Transfers Require Community or Third-Party Protections Only if Based on Land Fallowing or Retirement

Similarly, protections or mitigation requirements for long-term transfers are grossly inadequate despite the fact that they have a greater potential to cause irreparable harm to the community or to third-parties. The Model Act defines long-term water transfers as proposals or agreements to transfer water for more than two years and includes the permanent changes in water rights and permanent transfers of water.[58] The Model Act would prohibit the SWRCB from approving a long-term transfer unless it concluded that the transfer "would not result in significant injury to any legal user of water" *and* "would not unreasonably affect fish, wildlife, or other instream beneficial uses."[59] Once the SWRCB concluded that the long-term transfer complied with these requirements, and that it was not based on water from land fallowing or in retirement, it is required to approve the transfer, regardless of the impacts on the community or other third parties. Thus, like short-term transfers, this category of long-term transfers does not require any community or third-party protection or mitigation.

Community or third-party protection or compensation is required only for long-term agreements based on land fallowing or in retirement of previously irrigated land that *"cause substantial harm to the economy in the area from which the water is to be transferred."*[60] It is unclear from the Model Act what level of economic and third-party impacts would be sufficient to constitutes "substantial harm to the economy." Further, the SWRCB is required to take into consideration any actions that the petitioner or other parties to the transfer agreement have taken to mitigate harm to the economy. Conceivably, then, parties to a long-term transfer of water from land fallowing or in retirement that would result in "substantial harm" could circumvent their obligation to the community by taking minimal actions to mitigate such impacts. Thus, without a clearer definition of "substantial harm" and corresponding responsibilities, parties to such transfers could easily shed their legal obligations.[61]

Evidence suggests that long-term water transfers, especially those from land fallowing or in retirement, do create undue economic and social burdens on the economies and local governments in the areas from which water is transferred. More importantly, impacts are not limited to long-term or permanent transfers. Even short-term or emergency transfers have the potential to create undue economic burdens. For example, evidence suggests that the Drought Water Bank created substantial impacts on the local economy, jobs, and social services. In 1992, the Yolo County Board of Supervisors submitted a bill for $129,305 to the Department of Water Resources for reimbursement of the county's additional expenditures for General Assistance and

55. *See id.* § 204 ("If a water right holder or water transferor enters into successive short-term agreements with the same party ..., and if such successive agreements have commencement dates within one year of each other and result in the transfer of water for a term in excess of two years, the agreement shall be regarded as a long-term agreement ...").

56. *See id.* § 404 (emphasis added).

57. *See id.* § 404(a).

58. *See id.* § 204.

59. *See id.* § 404 (emphasis added).

60. *Id.* § 404(c) (emphasis added).

61. *See id.* This provision does not apply to land within the San Joaquin Valley Drainage Program study area.

Aid to Families with Dependent Children allegedly caused by increased unemployment attributable to land fallowing and to the transfer of water to the 1991 Water Bank.[62] While the county's claim was not substantiated, it illustrates the legitimate concerns held by local communities and third-parties dependent on irrigated agriculture for their livelihood.

Evidence from other long-term transfers, even those not involving substantial land fallowing or retirement, suggests that impacts may be substantial. A study of the Palo Verde Irrigation District-Metropolitan Water District two-year transfer suggests that, while it is difficult to quantify impacts with a high degree of certainty, there were a number of community impacts.[63] The study reveals that farm workers were adversely affected through the loss of on-farm jobs. The selling community experienced negative effects from the loss of employment in farm-related industries.[64]

Even non-market transfers or water delivery cutbacks have the potential for substantial impacts on local economies and on people that depend on water for their livelihoods. A study of the impacts of the water delivery cutbacks during the 1987-1992 drought on Mendota (Fresno County), for example, concluded that:

- irrigated cropland decreased by 14 percent as a result;
- farmers substituted groundwater because of the loss of surface water deliveries and may have exacerbated groundwater overdraft;
- employment and wages, as well as the number of farms, declined substantially in the Mendota area;
- non-agricultural, related businesses declined substantially; and
- tax revenues and property values, including agricultural land values, declined.[65]

Thus, the premise that only long-term transfers of water from land fallowing or retirement can result in substantial impacts on communities and other third-parties is not supported by the evidence. As we have illustrated above, transfers of water, whether short-term or long-term, market-based or the result of drought conditions or legal mandates, can have substantial impacts on communities and third parties. Given this evidence, the standards and procedures for expedited transfers of conserved water are very troublesome.

C. Expedited Transfers: Inadequate Safeguards and Remedies

The Model Act's expedited transfer provisions purport to provide adequate community and third-party protections by limiting the amount of water that can be transferred to the transferor's historic consumptive use plus any water that is irretrievably lost to all beneficial uses. However, we strongly disagree. These limitations may provide some protections for other water rights holders, instream uses, and groundwater recharge, but they fail to protect the interests of communities or other third-parties which are likely to be adversely affected. Not only are protections inadequate as the Model Act is currently written, but a community's (or a third-party's) ability to challenge an expedited transfer is seriously limited. As the author of the Model Act has stated, one of the central purposes of the Model Act is to "permit ... transfers to occur relatively quickly and inexpensively without substantive pre-transfer review by the State Water Resources Board and without *post hoc* substantive review by the courts."[66]

In addition to inadequate public and judicial review, sections 505 and 506 limit the amount of damages to the $5 "security deposit" per acre-foot. Section 505 of the Model Act requires that a $5 "security deposit" per acre-foot of conserved water transferred be placed in a community and third-party environmental compensation and mitigation fund managed by the SWRCB.[67] Revenue from the compensation and mitigation fund would be used to pay for damages caused to the environment, other water rights holders, and to the community. Compensable community injuries are limited to the loss of tax revenues and to the increased social services costs. Damages to farm workers, to businesses that depend on the current uses of water, and to others would not be compensable. Limiting compensable damages to local governments is inadequate given the number of other third-parties that can be reasonably expected to be adversely impacted by water transfers—farm workers, businesses, land owners, among others.

Others have expressed similar views, and have suggested other mechanisms for endowing the compensation fund and for its use.[68] The Natural Heritage Institute, for example, favors the creation of an impact compensation fund that would recapture the excess profits when and where they accrue

62. *See, e.g.*, Brian E. Gray, *The Market and the Community: Lessons from California's Drought Water Bank*, 1 WEST-NORTHWEST 17 (1994).

63. *See* LOH & STEDING, *supra* note 5.

64. *Id.* at 13–17.

65. *See* DON VILLAREIO, 93640 AT RISK: FARMERS, WORKERS AND TOWNSFOLK IN AN ERA OF WATER UNCERTAINTY (1996).

66. Gray, *supra* note 62, at 34.

67. MODEL ACT, §§ 505, 506.

68. *See* Gregory A. Thomas & Tara L. Mueller, *Reflections on the "Model Water Transfer Act" by the Natural Heritage Institute*, 4 WEST-NORTHWEST 91 (1996).

in water transfers.[69] The Rural Water Impact Network (R-WIN) has recognized the practical limitation in attempting to recapture the excess profits and is advancing a community mitigation proposal that calls for a tiered water transfer fee schedule based on the type of water and the nature of the transfer.[70] While R-WIN's proposal is still evolving, it would exempt the transfer of water conserved through efficiency, through banking of water in wet years in excess of contract, and through small-scale intra-regional agriculture to agricultural transfers. The transfer of water conserved through rational fallowing, field crops, row-crops, and permanent crops would be subject to increasing fees, with fees for long-term transfer (those greater than one year) twice as high as those for short-term transfers.[71] While such a tiered fee structure might discourage some marginally beneficial transfers, it attempts to more accurately correspond to the community and third-party economic impacts of communities that lose the water. This structure is supported by preliminary findings of the Pacific Institute.

IV. Conclusion and Policy Recommendations

Efforts to create a market for water must balance the historically competing commodity and community perspectives on water and build upon a common understanding of the values involved and of the necessity of communication and cooperation. The problem with and the conflict in recent efforts to create water markets, including the Model Act, is not that they acknowledge that water has "economic" value, but that they attempt to divorce water from its value to the community. As F. Lee Brown has noted, "Water has value to traditional societies ... even if it is not scarce. ... The assessment that water has become an economic good ... does not logically or empirically imply that prices and markets are necessary institutional prescriptions for handling the problem of its scarcity."[72]

This paper has argued that economic theory and rationale alone is insufficient to create a market for water. Water is and has always been a shared community resource, vital to fulfilling both individual and public values. A free market, as envisioned by the Model Act, is not the appropriate model for water allocation because it limits public debate in water policy and excludes the values of community security, equity, and sustainability. As stated previously, community values and equity and fairness are not mere barriers to markets, but are among the ends that allocation institutions should help achieve.

The Model Act fails to integrate community and social values with the efficiency goals of a market. While it would give current water rights holders incentives to sell their water to the highest bidder, and, we would argue, give them a windfall, it is unclear how that alone would result in improved water reliability and sustainability. We have argued elsewhere that the Model Act might actually limit the ability of the SWRCB and other regulatory agencies charged with protecting the public interest to uphold and more strictly enforce the "reasonable" and "beneficial" use doctrines.[73]

Similarly, the Model Act fails to establish clear qualifications for buyers and sellers. We have recommended elsewhere that buyers should be required to demonstrate that they need the water, that there are no better alternatives for supply, and that they are conforming to certain standards of efficiency.[74] While this places an additional burden on potential buyers, it ensures that potable water is not being used to promote wasteful water use practices at the expense of sustainable agriculture or of basic human or environmental needs. A potential means by which to set these requirements, which the Model Act does not include, is through a thorough and consistent interpretation of the "reasonable" and "beneficial" use doctrines. Conceivably, such limitations would not result in more efficient, beneficial, or sustainable use of California's water supplies. Rather, the Model Act could simply facilitate the flow of water to those with the greatest financial ability to pay for it.

69. *Id.* NHI defines excessive profits as the difference between the cost of water (including the cost of conserving or salvaging it) to the seller and the price (net of less the transaction costs) necessary to motivate the transfer. NHI then would use the value of that same block of water in other applications as the proxy to determine the price necessary to motivate the transfer. *Id.* While such an approach seems theoretically sound, it might prove difficult in practice.

70. Rural Water Impact Network, A Proposal for Addressing Impacts from Water Transfers and Reallocations in California's Agricultural Regions (1996).

71. *Id.*

72. F. Lee Brown, Water Markets and Traditional Water Values: Merging Commodity and Community Perspectives 5 (unpublished manuscript, presented at the conference "Water. A Trigger for Conflict/A Reason for Cooperation, at the Indiana Center for Global Change and World Peace," Indiana University, Mar. 8, 1996).

73. *See* Loh & Gomez, *supra* note 1, at 17 The Act would allow conservation and transfers to establish "reasonable" use in the face of prior unreasonable use by the water rights holder, as was the case in the Imperial Irrigation District-Metropolitan Water District transfer. Further, by not requiring that potential buyers of water first put all their existing water to beneficial use to the fullest extent possible, nor prevent waste, unreasonable use, or unreasonable method of use, there is no guarantee that transfers will not exacerbate urban sprawl, groundwater overdraft, and other unsustainable water management problems. *Id.* at 18.

74. *Id.*

While we believe that long-term, inter-regional, voluntary transfers can help support communities and economies, this will not occur without changes in existing institutions. For efforts to create a water market to succeed, especially in a demographically and geographically diverse state like California, they must facilitate greater community participation in water policy in general and water transfers in particular. Then, and only then, will we move closer to creating a market for transfers that balances and protects the interests of existing water rights holders, potential buyers, the environment, and communities.